“CAN I RIP YOUR JUUL?”

THE EVOLUTION OF THE ELECTRONIC CIGARETTE INDUSTRY, ITS PRODUCTS, AND MARKETING APPEALS

by

MATTHEW McGONEGAL

A THESIS

Presented to the School of Journalism and Communication
and the Robert D. Clark Honors College
in partial fulfillment of the requirements for the degree of
Bachelor of Science

November 2019

An Abstract of the Thesis of

Matthew McGonegal for the degree of Bachelor of Science
in the School of Journalism and Communication to be taken November 2019

Title: "Can I Rip Your JUUL?" The Evolution of the Electronic Cigarette Industry, its Products, and Marketing Appeals

Approved: _____ *Autumn Shafer, Ph.D.* _____
Primary Thesis Advisor

In recent years, public attitudes toward electronic cigarettes have undergone a fascinating transformation. What began as an underdeveloped, niche market for adult smokers looking to quit evolved into a hobbyist subculture as vaporizer technologies advanced and marketing appeals diverted from smoking cessation messages. Perceptions of the e-cigarette industry soon transformed again with the emergence of a new competitor: JUUL Labs.

Since JUUL's introduction to the market in 2015, it has grown to dominate the space in both market share and cultural relevance. Although e-cigarette makers have long promoted their products as a smoking cessation method, JUUL's popularity with underage users has cast doubt over the public health benefits of e-cigarettes.

This thesis explores the evolution of the e-cigarette industry's products, marketing appeals, and audiences, as well as the product and marketing factors contributing to JUUL's popularity with nicotine-naïve users.

Acknowledgements

First and foremost, I want to thank my primary thesis advisor, Assistant Professor Autumn Shafer, for her guidance and support through this strenuous but rewarding process. Without her assistance and feedback, this thesis may not have been possible.

I want to thank Kelli Matthews for her years of mentorship in the School of Journalism and Communication. From Allen Hall Public Relations to the Portland Experience, I am grateful to have had the opportunity to work with someone with such a contagious passion for public relations.

Thank you to my advisor, Professor David Frank, for being part of my thesis committee and for motivating me to push through and graduate from the Honors College, even when my two major changes made it more time-consuming and expensive than my parents had hoped.

I want to thank all of the friends, family, and fraternity brothers who supported me through this project and listened to my rants about vaping. You inspired me to dig deeper into this subject and I am a better person for it.

Last, but not least, I want to thank my parents– especially my mom and dad.

Table of Contents

List of Figures

Introduction

> "After the burial, those engaged in it have to purify themselves, which they do in the following way. First they well soap and wash their heads; then, in order to cleanse their bodies, [...] they make a booth by fixing in the ground three sticks inclined towards one another, and stretching around them woolen felts, which they arrange so as to fit as close as possible: inside the booth a dish is placed upon the ground, into which they put a number of red-hot stones, and then add some hemp-seed.
>
> "The Scythians […] take some of this hemp-seed, and, creeping under the felt coverings, throw it upon the red-hot stones; immediately it smokes, and gives out such a vapor as no Grecian vapor-bath can exceed; the Scyths, delighted, shout for joy."

The History of Herodotus, Book IV
440 BCE

Vaping technologies have advanced dramatically in the past 2,500 years and lawmakers are starting to take notice. In 2015, the landscape of the electronic cigarette industry was completely transformed by the arrival of a new competitor: JUUL Labs. In less than five years, JUUL has grown to dominate the space both in market share and cultural relevance. JUUL's sales ballooned by nearly 800% in the 2018 fiscal year, accounting for over three-quarters of the U.S. electronic cigarette market and attracting a $12.8 billion investment from one of the world's largest tobacco corporations–putting their valuation at approximately $38 billion.

The financial success of JUUL has done more than increase the value of the rapidly growing e-cigarette industry; it has also instigated a national public health debate over nicotine marketing and the role that vaping plays as an alternative to cigarettes. E-cigarette purveyors have long promoted their products as a means for helping adult smokers quit, but JUUL's marketing strategies and popularity with

underage non-smokers, coupled with the recent surge in vaping-related lung illnesses, have cast doubt over this claim. As lawmakers and the Food and Drug Administration race to reel in this perceived "epidemic," it is clear that we are at a critical moment in the e-cigarette industry's history, and that we should examine the factors that brought us here before haphazardly banning these products for good.

First, I would like to briefly explain some of the terminology I will be using in this thesis, as even some of the media outlets reporting on these issues tend to conflate or misrepresent terms in the vaping lexicon. The following definitions come from the Oxford English Dictionary:

> **Cigarette**: a small cigar made of a little finely cut tobacco rolled up in thin paper, tobacco-leaf, or maize-husk.
>
> **E-cigarette**: a cigarette-shaped device containing nicotine-based liquid or other substance that is vaporized and inhaled, used to simulate the experience of smoking.
>
> **Nicotine**: a toxic, colorless or yellowish, oily liquid alkaloid, which is the chief active constituent of tobacco, acting as a stimulant in small doses, but in larger amounts blocking the actions of autonomic nerve and skeletal muscle cells.
>
> **Smoke**: the visible volatile product given off by burning or smoldering substances.
>
> **Tobacco**: the leaves of the tobacco plant dried and variously prepared, forming a narcotic and sedative substance widely used for smoking.
>
> **Vape**: (verb) to inhale and exhale the vapor of (a substance) using an electronic cigarette or similar device.
>
> **Vaper**: a person who uses electronic cigarettes or similar devices, esp. habitually
>
> **Vapor**: matter in the form of a steamy or imperceptible exhalation; esp. the form into which liquids are naturally converted by the action of a sufficient degree of heat.

Vaporizer: a device or apparatus by which conversion into vapor is accomplished

In this thesis, I examine the product and marketing factors contributing to JUUL's popularity, specifically with non-smokers under the age of 25. I also explore how public perceptions of the e-cigarette industry have evolved with its products, marketing appeals, and users.

Chapter one provides an historical overview of the electronic cigarette industry, from the early patents that never materialized to the most popular products available before JUUL's release. I assess the devices, the motives behind them and the marketing appeals they employed to reach their specific audiences. Research questions addressed in the historical overview include: How has e-cigarette technology developed? How were vaporizers marketed before JUUL? What makes JUUL stand out from competitors? Have user motivations for vaping changed with the technology?

Chapter two addresses the controversy surrounding JUUL's launch campaign, "Vaporized," and the marketing strategies JUUL used to take the industry by storm. Research questions examined in chapter two include: What–or who– is responsible for JUUL's rise to prominence? What factors contributed to JUUL's hegemony over the e-cigarette industry? Is JUUL's "Vaporized" campaign solely responsible for instigating the youth vaping crisis? What role did social media play in spreading JUUL's popularity?

Chapter three examines the role JUUL has had in transforming public perception of vaping for adolescent non-smokers. Research questions examined in chapter three

include: What attracts nicotine naïve users to try JUUL? Do young people view "JUULing" differently from "vaping?" If so, how did this disparity come about?

Methods

The methods used in this thesis primarily focus on secondary research but are supplemented by focus groups with UO students. Secondary sources include advertising materials compiled by Stanford University Research into the Impact of Tobacco Advertising (SRITA), past interviews with e-cigarette purveyors, regulatory documents, and social media content from vapor brands and unaffiliated influencers. Secondary sources have a date range from 1930 to November 24, 2019.

Focus group participants in this study (N = 10) were students at the University of Oregon between the ages of 18 and 22. All participants were male, associated with fraternities, and recruited through personal contacts. Participants were selected due to their familiarity with e-cigarette products and for their willingness to discuss the subject at length. Although my use of a purposive sample limits the generalizability of my findings, college-aged men are often an underrepresented population, as males comprise only about 20% of health behavior research samples (Ryan et al., 2019).

While the goal of this research was not to learn about the perceptions of vaping held by fraternity members in particular, the recruitment of these participants provides advantages that a more representative sample may not have. Fraternity and sorority members have been found to be nearly twice as likely to use e-cigarettes and tobacco products than non-members (Soule et al., 2019), and familiarity with e-cigarettes was a significant criterion for participant selection. In addition, the social opportunities that fraternity membership affords mean that participants may be more exposed to e-

cigarettes than other student groups, and participants' comfort with one another may have elevated the caliber of the discussion.

Three focus groups were conducted in November 2019. All participants provided voluntary consent. There were no direct benefits or foreseeable risks to participation. All procedures were approved by the university institutional review board with "exempt" status. I applied a semi-structured approach to focus group moderation to allow for probing questions based on participant responses to initial inquiry. The focus group guide is provided in Figure 1.

The average time of all three focus groups was approximately 32 minutes (FG one: 25:04 minutes; FG two: 33:17 minutes; FG three: 36:17 minutes), for a total of approximately 95 minutes Focus groups were audio recorded with the permission of participants. Audio files were stored on a password-protected smart phone and de-identified and partially transcribed for qualitative coding.

Chapter 1: A History of Electronic Cigarettes

When examining the history of the electronic cigarette industry, it is essential to consider the motivations behind a product's design and marketing strategy. Before JUUL found mainstream success with its sleek, pod-based system, dozens of devices were patented and released to market with little-to-no success. Over the past two decades, we have seen dramatic advancement in vaping technology and an ever-growing range of products available to consumers.

Electronic cigarettes exist, first and foremost, as a response to the cigarette industry and the health risks associated with smoking. The electronic cigarette industry's products, marketing appeals, and standing in the eyes of public health officials, have always been closely linked to the influence of big tobacco and to the notion that vaping is less dangerous than smoking combustible cigarettes.

While the public dialogue surrounding JUUL so often frames vaping as if the technology is still in its infancy, the first electronic vaporizer was created nearly a century ago. Joseph Robinson, a New York scientist, designed the first handheld electronic vaporizer as a medical device. He filed a patent for his invention in 1927, and it was approved in 1930 (Srsen, 2017). His description of the device reads,

> "My invention relates to vaporizing devices for holding medicinal compounds which are electrically or otherwise heated to produce vapors for inhalation, and the general objective is to provide a device of this character for individual use which may be freely handled without any possibility of being burned, and which is sanitary and very effective and so simple that anyone can use it. Instruments of this character heretofore provided are quite intricate and invariably become so hot that they cannot be comfortably handled. In them the important element of sanitation is neglected, and they are difficult to clean. To change from one compound to another without leaving particles of the previous compound remaining in these prior instruments is slow and difficult. The

> vapors cannot be, by the act of inhalation, quickly lifted out of them, and the result is that the vapors are not delivered to the afflicted parts hot enough or in sufficient volume to be fully effective. In my invention, these essential requirements are each fully provided for in a manner that produces an extremely simple vaporizer which extended use has demonstrated to be of great effectiveness -in the treatment of the afflictions for which its use is intended" (Robinson, 1930).

Robinson's medicinal vaporizer was a novel concept, but there was no market for his invention and it never materialized. He never released the device to the public, and there is no record of him ever producing a working prototype (Srsen, 2017). Although the device was not intended for vaporizing tobacco, its design would influence later generations of e-cigarettes.

In 1963, a scrapyard worker and Korean war veteran named Herbert A. Gilbert filed a patent for the first smokeless cigarette. A two-pack-a-day smoker, Gilbert was inspired to create a smokeless alternative while burning leaves and wood in his backyard, when he realized that he did not want to take the smoke into his lungs. He reckoned that you could chew lettuce leaves or tree bark without negative health consequences, but if you dried them out, ground them up, put them in paper, and inhaled, the smoke would be harmful to ingest. He concluded that the problems associated with smoking could not occur without combustion, and he began looking for ways to put out the fire (Dunworth, 2013). His solution: flavored water and steam. Gilbert's patent application states,

> "The present invention relates to a smokeless nontobacco cigarette and has for an object to provide a safe and harmless means for and method of smoking by replacing burning tobacco and paper with heated, moist, flavored air; or by inhaling warm medication into the lungs in case of a respiratory ailment under direction of a physician. Another object of the invention is to provide an article of manufacture resembling a cigarette by which air may be drawn through a porous substance of a cartridge which has been moistened with a chemically harmless flavoring

> preparation, combining moisture and taste following which the moist and flavored air passes through a section of the device heated by a suitable heating element so that warm, moist and flavored air is drawn into the mouth and if desired into the lungs of the user" (Gilbert, 1965).

While Gilbert's design was a crucial step forward for the electronic cigarette industry, his design was never put into production. Unlike Robinson's vaporizer from four decades earlier, Gilbert had working prototypes, but he could not find the support to take his product to market. "Those I showed it to could have done it, but they chose to wait for the patent to expire and then filed their own versions," Gilbert explains, "I showed it to chemical companies, pharmaceutical companies and tobacco companies and they did what they did to try to protect their markets. I am sure that many great inventions that could have benefited people, in the past and even today, receive the same treatment" (Dunworth, 2013).

In hindsight, Gilbert's smokeless non-tobacco cigarette may not have succeeded if it had reached production. Perhaps the most critical difference between his design and modern e-cigarettes is that his did not contain nicotine. Gilbert's prototypes produced tobacco-flavored air, as opposed to vaporized nicotine juices. The two parts of smoking addiction are said to be the chemical addiction (to nicotine) and the tactile–or physical–aspects of smoking. The smokeless cigarette did not appeal to chemical addiction, nor did it accurately reflect the experience of smoking. Gilbert explains, "In my opinion, without the visual effect of vapor, which makes the addict think of their usual smoke, I doubt it would work nearly as effectively" (Dunworth, 2013).

The next major iteration of vaping technology came in 1981 and turned the focus to nicotine delivery. Phil Ray was best known as the inventor of the microprocessor and for managing the Apollo program, but his design was surprisingly

low-tech compared to Gilbert's device. Ray, a smoker, wondered if it was possible to inhale nicotine without combustion. He devised a plastic, smoke-free product shaped and colored like a conventional cigarette that contained a filter paper soaked with liquid nicotine so users could draw a small dose by inhaling. There was no electricity, combustion, or smoke; it delivered only nicotine.

Ray partnered with his physician, Dr. Norman Jacobson, to form Advanced Tobacco Products INC and commercialize the design, which they branded as Favor Cigarettes. After two years of trials and armed with the tagline "Do yourself a Favor," they successfully placed their smokeless cigarettes in large grocery store chains throughout the Western United States (Dunworth, 2014). Favors were packaged similarly to combustible cigarettes but had an explanation of the product on the back that reads,

> "You don't light FAVOR®. Simply inhale for cigarette taste and satisfaction. For most smokers, a box of six is comparable to an entire pack of conventional cigarettes. Best of all, there's none of the tar or carbon monoxide that comes from burning tobacco. Because you don't light it. Just inhale, for cigarette satisfaction without smoke. CONTAINS NICOTINE KEEP AWAY FROM CHILDREN" (Favor Smokeless Cigarette, n.d.).

Favor ran into major issues shortly after its release; the first was due to the design of the product. Nicotine is volatile in its liquid state, so the cigarettes had a short shelf life as the liquid evaporated to become bitter. Despite this defect, Favor's novel concept, effective marketing and wide distribution channels brought Advanced Tobacco Technologies legitimacy as they became listed on the American Stock Exchange (now NYSE). In 1987, however, Favor cigarettes were pulled from the market by the Food and Drug Administration. In a regulatory letter to Phil Ray, the FDA writes,

> "It is our position that Favor is a nicotine delivery system intended to satisfy a nicotine dependence and to affect the structure and one or more functions of the body. Because of its intended uses, Favor is a drug as defined within […] the Federal Food, Drug, and Cosmetic Act. In addition, we regard Favor to be a new drug within the meaning of [section] because Favor's composition is such that it is not generally recognized, among qualified experts, as safe and effective for use under the conditions prescribed, recommended, or suggested in its labeling.
>
> "Since Favor is a new drug within meaning of the Act […] Favor may not be introduced or delivered for introduction into interstate commerce under (the Act)" (HHS, 1987).

While Ray and Dr. Jacobson's Favor cigarette is notable as the first commercialized smoke-free nicotine delivery device, their most enduring contribution to the vaping industry was to its lexicon. Ray and Jacobson are credited with popularizing the terms "vape" "vaping" and "vapers" through their years of nicotine research and promoting Favors (Dunworth, 2014). Although the device was neither an electronic cigarette nor a commercial success, its emphasis on nicotine delivery and the language surrounding it made Favor a landmark product in the history of vaping.

Iterations of Modern E-Cigarettes

Hon Lik is widely considered to be the father of modern e-cigarettes. Born in Shenyang, China in 1951, Hon began his two-to-three pack a day smoking habit as a teenager. He was working as a pharmacist in 2002 when his father–also a smoker– was diagnosed with lung cancer. Hon wanted to quit smoking, but the nicotine patches and gum did not work. With an education in Oriental medicine and an interest in mechanics, Hon sought out to create something that could satisfy his nicotine addiction without the carcinogens found in cigarette smoke (Geller, 2015).

Hon experimented by building a system that used food additives as a solvent and vaporized by ultrasound. This prototype was too bulky to replicate the feel of a cigarette, and worse, the vapor emitted more closely resembled a household humidifier than tobacco smoke. Hon refined his idea, and months later he patented a smaller, cigarette-like device that used a heating element to vaporize nicotine solution. In 2004, he introduced this product to the Chinese market under the name Ruyan, which means "like smoke." Months later, Hon lost his father to lung cancer, which galvanized his mission to spread vaping as a smoking alternative around the world.

Hon saw that Ruyan had the potential to be a revolutionary product, and he closely guarded his intellectual property. Although China remains the world's largest e-cigarette manufacturer today, it is still the world's largest tobacco market due to the hegemony of state-owned China National Tobacco (Geller, 2015). He understood that consumer demand for smoking alternatives is greater in the West, so he registered patents in more than 40 countries and introduced Ruyan to the United States in 2007. (Bhatnagar et al., 2014)

In 2013, Ruyan's parent company, Dragonite International, sold Hon's patents to Fontem Ventures, a Netherlands-based subsidiary of the United Kingdom's Imperial Tobacco Group, for $75M. While public health critics viewed this move as antithetical, Hon believed that partnering with one of the world's largest tobacco companies could encourage the diffusion of e-cigarettes worldwide. "By using the existing distribution channels of the tobacco companies to tobacconists, maybe it is the best way for consumers to access e-cigarettes," Hon said, "What Fontem is doing is quite the

opposite [from Imperial]. Fontem shares my values. The e-cigarette is the alternative to smoking cigarettes" (Boseley 2015).

In the years since Ruyan commercialized the industry, e-cigarettes have evolved rapidly. Manufacturers offer a wide variety of products, nicotine concentrations, and e-juice flavors for consumers to choose from. There are considered to be three generations of e-cigarettes that were on the market before JUUL's launch in 2015.

First-generation e-cigarettes, like Ruyan, Krave and Blu, generally try to mimic the appearance and feel of a combustible cigarette to attract smokers looking to quit. For this reason, they are often referred to as "cig-a-like" models. This generation sees the least variation in size and initially consisted of three pieces: a battery, atomizer, and cartridge. As these products evolved, more advanced models replaced atomizers and cartridges with rechargeable cartomizers that connect to the battery. Replicating the experience of cigarettes is such a priority in first-generation devices that some "cig-a-likes" light up on the end to resemble an ember. Many "cig-a-like" models are disposable and intended for one-time use. Since these devices do not offer features for users to customize, they are available in a wide variety of nicotine concentrations and flavors.

Second-generation e-cigarettes are typically larger than "cig-a-like" models and have more-powerful batteries, allowing them to stay charged for longer. These models are commonly referred to as "tank-style" e-cigarettes due to their large cartridges that users can refill with e-juices of their preference. Many tank-styled models are futuristic in appearance and more closely resemble a ballpoint pen or screwdriver than a cigarette. While second-generation devices contain the same basic components as first-generation

e-cigarettes, they generally allow for more user-customization. Some models have "fire" buttons that must be pressed during inhalation or switches that enable users to modulate puff length and frequency.

Third-generation vaporizers follow the trend of devices becoming larger and more-customizable; for this reason, they are often called "personalized vaporizers" or "box mods." These devices come with a wide range of cartridge, atomizer, and battery options. Many models let the user adjust the resistance on the cartomizer, which allows them to control the heating temperature and amount of vapor emitted. Users of third-generation devices can mix-and-match different atomizers and batteries to tailor the aerosol (vapor) and battery life to their liking. While customization may benefit the user experience, a downside of user-modification is that the cross-product and within-product differences in vapor production and nicotine delivery complicate researchers' ability to assess the risks of e-cigarettes on individual and population health (Bhatnagar et al., 2014). With users able to personalize their devices to such a degree, it becomes difficult to ensure quality control.

Vape Culture

> "I never walked up to another person who smoked cigarettes and said: 'What brand is that and can I try it?' But vaping has evolved because it's a tech product and, as that tech has developed, the hobbyist side of it has become huge."
>
> Dimitris Agrafiotis, professional vaper (Usborn, 2018).

Third-generation vaporizers– "box mods"–were a significant turning point for the electronic cigarette industry. Technological advancement made batteries longer-lasting, atomizers less resistant, and the flavor options of nicotine juices boundless. It was only a matter of time before e-cigarette manufacturers adjusted their products and messaging to appeal to a new demographic of users: "cloud chasers." "Cloud chasers" are box mod enthusiasts who use their devices to perform tricks with the vapor or compete to exhale the largest clouds. This subculture has contributed to the growing vape lounge industry, which has been the fastest-growing retail segment this decade. Brick-and-mortar vape shops are predominantly small-businesses, with more than two-thirds of workers–an estimated 45,000 nationwide– working at stores with fewer than ten employees, the highest rate of any retail segment (Van Dam, 2019).

Box mod enthusiasts have also fueled the competitive vaping movement, a sport largely responsible for the divergence between e-cigarettes and modified devices. Whereas e-cigarettes were devised as a smoking cessation method, modified vaporizers are designed so users can perform cloud tricks. Cloud competitions and vape conventions are held nationwide, drawing thousands of participants as well as vendors peddling devices and e-juices. In cloud competitions, participants often vaporize vegetable glycerol; some e-juices used by "cloud chasers" do not even contain nicotine

(Mosbergen, 2017). Avid Lyfe Inc., a box mod manufacturer in California, directly advertises its products to “cloud chasers” for competitive vaping. Their mission statement reads, “We are not for everyone who vapes. If you’re looking for high performance, quality competition mods, you’ve come to the right place!” (“About Us,” n.d.)

So, was the rise of “cloud chasing” the result of vape manufacturers de-emphasizing smoking cessation in their product design and marketing appeals, or did manufacturers respond to a grassroots demand for more advanced devices capable of producing more vapor? Well, it is difficult to tease this chicken-or-egg argument apart as user motivations for vaping come down to the individual’s wants and needs. Between 2012 and 2014, the e-cigarettes with the greatest market share were Blu, Logic and Njoy, devices of the first-generation variety that heavily pushed smoking cessation in their advertisements. From 2014 to 2016, Vuse, a pod-based device, grew to have one-third of the market share with advertisements that emphasize the device’s convenience and performance (Huang et al., 2018). A 2017 study that analyzed Twitter content from 2012 and 2015 concluded that rationales for vaping might have shifted. Of the tweets analyzed from 2012, 43% cited smoking cessation as their motivation, followed by social image (21%), indoor use (14%), and flavors (14%). In 2015 smoking cessation fell to 29%, while social image increased to 37% (Ayers et al., 2017).

To Hon Lik, the father of modern vaping, the growing subculture of vaping enthusiasts is an unexpected but sensical outcome of his technology. “E-cigarettes are a consumer-driven revolution,” Hon said, “When automotive manufacturers first started

out, they were not thinking about a sport to be called Formula One. You always have groups of people who are looking for excitement" (Geller, 2015).

Diffusion of innovation theory, popularized by communication theorist Everett Rogers, seeks to explain how new ideas and technologies spread via communication channels over time. This theory assigns five categories to adopters: innovators, early adopters, early majority, late majority, and laggards; which can be applied to e-cigarette users as this technology category diffused into the mainstream (Rogers, 2003).

Gilbert's smokeless non-tobacco cigarette and Ray's Favor cigarette are examples of failed diffusions. In Gilbert's case, the lack of interest from pharmaceutical and tobacco companies prevented him from mass producing and advertising his device. Favor cigarettes were adopted by some users but did not reach a point of mass adoption due to product weaknesses and regulatory action by the FDA. The most popular first-generation, or "cig-a-like" models were first adopted by smokers that fit in the "innovator" category of adopters. This category of adopter is characterized by their proximity to scientific sources and technological innovators, as well as their risk tolerance that allows them to adopt technologies that may fail. Smokers are more frequently exposed to e-cigarette advertisements, as they are the target audience for e-cigarette brands that push smoking cessation messages. Despite the unknown long-term health effects of vaping, the innovators for e-cigarettes perceived them as a risk worth taking in comparison to the known dangers of smoking.

The box mod users and "cloud chasers" who began vaping during the proliferation of vape lounges can be classified as early adopters. This adopter category is characterized by higher social status and financial liquidity, characteristics shared by

the tech hobbyists that fueled demand for customizable products and flavored e-juices and promoted vaping culture on social media. This category's high degree of opinion leadership helped the vaping industry become mainstream but–as chapter 3 discusses–their enthusiasm for the technology turned away the majority. For e-cigarettes to be adopted by the majority, new products would have to be introduced to appeal to the skeptics.

Ploom

James Monsees and Adam Bowen met in the early 2000s as graduate students in Stanford University's product design program. They spent much of their time on campus together and learned that they had a lot in common: they studied physics as undergraduates, they were interested in art, and they were smokers. During their late-night smoke breaks, the two discussed cigarettes and the stigma they felt while smoking on-campus. They wondered why, in an age of dramatic technological progress, there was not yet a healthier, more socially acceptable alternative to combustible cigarettes (Biggs, 2012). Monsees and Bowen decided to put their shared interest in mechanical design to use and paired up for their master's thesis.

In the spring of 2005, after months of patent research, tinkering with prototypes, and interviews with smokers, Monsees and Bowen presented their thesis, "Ploom: The Rational Future of Smoking." This presentation was very conceptual and focused on their device's potential to spur healthy, social change while destigmatizing nicotine consumption. "Is it even possible to make a safe cigarette?" Monsees pondered aloud, "What if smoking were safe? Or even better, what if smoking were not offensive to

others as well?" Throughout their thesis presentation, they frequently addressed the stigmas that smokers face; they even showed a clip from *South Park* in which a group touring the "Museum of Tolerance" verbally berate a man with a cigarette. "Our goal was to create a whole new experience for people that retains the positive aspects of smoking–like the ritual–but makes it as healthy and socially-acceptable as possible… We wanted something compact, highly-portable, convenient, easy-to-use, elegant, and yet stay clear from all the existing icons in the tobacco world–like cigarettes, cigars, and pipes–all of those, sort of, loaded icons" (Bowen and Monsees, 2005).

Believing that Ploom was a concept worth pursuing, they soon took over a bedroom in Bowen's off-campus house where they continued to research the industry, made prototypes, and developed a business plan. "Tobacco isn't the easiest, most straightforward category for which to seek investment in Silicon Valley, so we met with probably at least 100 [venture capitalists] and Angels in an around the technology space before we really understood how things worked," Monsees said in a 2012 interview.

> "I would argue that there are no other markets this size where so little consumer-visible technology has changed in multiple decades. Simply put, the tobacco space is a huge opportunity where we thought we could make a meaningful impact. There is obviously a large opportunity for business to exist, but more importantly there is an incredible swell of consumer demand that needs to be met. Though tobacco product offerings weren't really changing, consumer tobacco product demands really have been, and our view was that traditional tobacco companies were not going to meet those needs on their own."

In 2007, their start-up raised seed capital from two Angel groups, moved to an office in San Francisco, and incorporated as Ploom, Inc. (Biggs, 2012). Three years later, Ploom introduced its first commercial vaporizer, the Ploom model One. This heat-not-burn

device resembles a ballpoint pen and is quite different from the e-cigarettes that preceded it and the vaporizers that would follow.

The model One is not an e-cigarette, but a pipe tobacco product; it uses butane to heat a flavor blend, allowing the user to draw the vapor through the mouthpiece. The user must refill the device with butane after two hours of use, enough time to vaporize approximately 12-24 Ploom Pods. Ploom Pods are single-serving, aluminum capsules smaller than JUUL pods, and similar in appearance to Keurig Cups. These recyclable pods are sold in 12-packs at a suggested retail price of $5.95. Ploom offers two types of pods–tobacco blends and herbal blends–with a total of seven flavors. Tobacco blends include, “Naked,” a blend of 100% pure tobacco, “Rocket,” tobacco with hot cinnamon and mint, “Café Noir,” with a hint of cacao, “Gold,” with a hint of honey-cognac, and “Orchard,” with natural tobacco and peach. Their herbal blends are “Kick-Ass Mint,” a natural peppermint flavor, and “Blue Tea,” which contains English breakfast tea and berry flavors (Erickson, 2011).

The Ploom model Two improved upon the model One by replacing its butane catalyst system with a USB-compatible battery and adding an LED indicator light to alert the user of the battery level. Futuristic in its appearance, the model Two looks nothing like a combustible cigarette and is larger than an Njoy King or a Blu cig, two of its more-popular contemporaries. While both Ploom models can replicate the taste of tobacco through their heat-not-burn technologies, they are too bulky to mimic the feel of cigarettes (Crook, 2013). Ploom Pods can be vaporized entirely in 5-10 minutes–marginally longer than the time it takes to smoke a cigarette–and removing the Pods while the battery is heated puts the user at risk of being burned. Despite these flaws,

both Ploom models were innovative vaporizers that helped the brand cultivate its image as a cutting-edge technology manufacturer. They were, however, overshadowed by another Ploom, Inc. product that gives users more control over the substances they are vaping.

PAX Labs

Between 2012 and 2016, eight states and the District of Columbia legalized recreational marijuana use, increasing consumer demand for THC oil cartridges and cannabis-friendly vaporizers (NCSL, 2019). In 2012, Ploom introduced PAX, an electric, heat-not-burn device capable of vaporizing tobacco or cannabis. This sleek vaporizer was praised by critics upon its release, as one critic wrote, "It's more attractive and more user-friendly than any other vaporizer I've seen. After a few weeks of using it, I believe it could do for alternative smoking methods what the iPod did for MP3s – take an existing, but nascent, technology and propel it into the mainstream" (Lavrinc, 2012).

PAX became a popular cannabis vaporizer as it allowed users to quickly and discretely heat flower without the lingering fumes of marijuana smoke. Critics affectionately referred to PAX as the "iPhone of vaporizers," an accurate comparison for both its technology, and its maker's approach to design. In a 2012 interview, James Monsees said,

> "Other products in the vaporizer space seem to be designed as gizmos where people feel a sense of achievement when they figure out how to use them. Functionality doesn't just mean that something turns on or heats up or produces vapor. Functionality means that components fit their human interface, that buttons are obvious in their functionality or just plain not there, that knobs and indicators are taken to the absolute

> level of simplicity and necessity, and all this is done while pushing the bounds of what is possible from an engineering perspective" (Biggs, 2012).

Prior to 2015, Ploom never explicitly marketed its products to cannabis users as the company had its sights set on producing smokeless alternatives to cigarettes; but PAX's effectiveness as a loose-leaf vaporizer made Ploom a major player in the now-legal cannabis vape market. "Pax is currently a tobacco product," Monsees said, "But the industry and the regulatory landscape is shifting. We're very much aware of that and would love for this technology to be applied as broadly as possible" (Yakowicz, 2015). The release of the PAX 2 further solidified their image as a high-end cannabis technology company as they marketed the device as "the acclaimed portable vaporizer for flower" ("PAX 2," n.d.). Between 2013-2015, PAX sales grew by 200% as they sold over a half-million units.

In February 2015, Ploom sold its name and the model Two vaporizer to Japanese Tobacco International (JTI), owner of the Camel Cigarette brand. Retaining the rights to PAX devices, they changed their name to PAX Labs. With this new identity, they secured $46.7 million in Series C funding from investors, including Fidelity Management (Yakowicz, 2015). "Both companies will profit from this fresh approach," Monsees said, "Operating as Pax Labs, our focus on vaporization delivery products will fuel continued growth, especially as we enter new market segments." He added, "[We plan] rapid rollouts of new products and further expansion into international markets" (Page, 2015).

"The iPhone of E-Cigs"

On June 1, 2015, PAX Labs introduced the JUUL electronic cigarette, a device that would fundamentally change the vaporizer industry and spur a public health debate that poses an existential threat to the industry itself. JUUL was released at a very opportune time in PAX's short-but-disruptive corporate history. The success of the PAX vaporizers made them a serious player in the industry, and the press coverage they garnered reinforced their image as a cool, cutting-edge, lifestyle brand. Ploom allowed them to experiment with pod-based nicotine delivery systems, while their deal with JTI gave them an influx of capital that they used to buy back equity in PAX and sell to reputable institutional investors like Fidelity. As the international popularity of vaping grew, bullish analysts speculated that the value of the e-cigarette market could hit $3.5 billion in 2015–up from $2.5 billion the year prior (Huddleston, 2015). With nearly a decade of industry experience, strong brand identity, and the most user-friendly technology in the field, PAX was primed to compete again in the electronic cigarette market.

From a graduate thesis to Ploom to PAX, JUUL is a device more than a decade in the making. After examining the many iterations of vaporizers that preceded JUUL, it is not difficult to see where JUUL found inspiration and where it diverged. The two key ideas behind JUUL's design are simplicity and satisfaction: the device is remarkably easy to use, and it delivers vapor at a temperature and nicotine level pleasant to smokers.

JUUL is a non-refillable, pod-style e-cigarette with just two components: the battery (also called the device) and the JUUL pod. The device itself is an aluminum

shell– approximately 8.7 cm long and 1.5 cm wide–encasing a lithium-ion battery, a circuit board, and a pressure sensor, all of which remain separate from the vapor path and liquid. JUUL pods are made of heat-resistant plastic and contain a stainless-steel vapor path, a silica wick, and a nichrome coil heater. Each JUUL pod contains 0.7 mL of e-liquid. Approximately 90% of e-liquid is a (30/60) mixture of propylene glycol and glycerine; these clear liquids are commonly used in the medical and food industries, and act as the delivery system to create a visible vapor when heated by the wick. Typically, 5% of the e-liquid is nicotine salt, but JUUL now sells pods with 1.7% and 3% concentrations. Benzoic acid, a food-grade flavoring, is combined with nicotine to allow the e-juice to vaporize at a lower temperature. Lastly, JUUL pods contain trace amounts of naturally occurring and artificial flavors.

The nicotine levels in JUUL pods have been a source of controversy, as most e-juices before JUUL were in the 1%–3% range of nicotine concentration. Purveyors of vaping products often marketed 3% e-juices as ‘super-high’ and intended for two packs/day smokers. JUUL’s 5% pods contain 59 mg/mL of nicotine, a concentration equivalent to a pack of 20 cigarettes. While most e-juices contain freebase nicotine, JUUL’s patented e-liquid contains nicotine salt, which delivers a higher concentration of nicotine to the bloodstream in less time (Jackler, 2019).

While critics warn that this formulation is very addictive to nicotine-naïve users, JUUL was intended for adult smokers. Bowen and Monsees designed JUUL to replicate the sensation of smoking better than its competitors, and to be the most user-friendly device on the market. They succeeded, and this success put the e-cigarette industry at the risk of extinction.

Chapter 2: JUUL's Path to Hegemony

Tobacco vs. E-Cigarette Marketing

Before exploring the controversial marketing practices that contributed to JUUL's popularity with non-smokers, it is important to briefly address some of the key regulatory differences between tobacco advertising and e-cigarette advertising.

In 1941, blackout measures from World War Two forbade lighting on outdoor advertisements. That year, R.J. Reynold's erected a 100-by-30-foot billboard on the Claridge Hotel in Times Square, rigged to blow large smoke rings of steam across Broadway every four seconds. For 25 years, the Camel Man billboard towered over Times Square. In West Hollywood, Philip Morris placed a 64-foot-tall cutout of the Marlboro Man over the Sunset Strip. In the early 1970s, faced with looming government restrictions over their advertising practices, the tobacco industry quit advertising on television and radio and shifted their focus to billboards. Less than a decade later, one in every three billboards advertised tobacco products. In major cities, many of these billboards became beloved local landmarks (Meier, 1999).

In 1998, the largest civil litigation settlement in U.S. history imposed restrictions on the marketing, promotion, and advertising of cigarettes. The Master Settlement Agreement–an accord between the state Attorneys General of 46 states, five U.S. territories, and the nation's five largest cigarette manufacturers–requires the tobacco industry to pay billions of dollars in annual penalties to the states, in addition to new advertising restrictions placed upon the participating manufacturers. This agreement forbids manufacturers from directly or indirectly targeting youth, bans

cartoons, transit advertising, billboards, product placement in media, branded merchandise, and most sponsorships and product samples (Public Health Law Center, 2019).

The Master Settlement Agreement was a monumental step in anti-tobacco regulation that dramatically limited the tobacco industry's ability to advertise in the mass media. It also created vast regulatory differences between the tobacco and e-cigarette industries. At that time, the FDA classified e-cigarettes as drug delivery devices subject to regulation before import and sale under the Food, Drug, and Cosmetic Act. President Obama signed the Family Smoking Prevention and Tobacco Control Act into law back in 2009, which gave the FDA authority to regulate the manufacture, distribution, and marketing of tobacco, but did not include e-cigarettes. It was not until August 2016 that the FDA extended its regulatory authority to include cigars, hookah, and e-cigarettes. In addition to setting a minimum sale age of 18 and requiring ID for purchase, this rule gave the FDA the power to review ingredients, product design, health risks, and products' appeal to youth and non-smokers. Also, under this rule, e-cigarettes, e-liquids, and associated products cannot be advertised as safer than other tobacco products unless they received modified risk tobacco product status, a status that has not yet been granted to any e-cigarette product (FDA 2016).

Now that we are in the midst of a vaping "epidemic," the FDA is working to strengthen its regulatory authority by fining retailers and manufacturers that sell to youth and by restricting the sale of flavored e-juices in convenience stores. In September 2019, President Trump announced plans to propose a ban on flavored e-cigarette liquids, a step that has already been announced or enacted in nine states,

including Oregon (Thomas and Kaplan, 2019). More extensive regulation may be looming, but it will not completely undo what the e-cigarette industry marketed and was permitted to market just a few years ago.

"Vaporized"

In 2015, PAX Labs launched JUUL with an innovative, multimillion-dollar marketing campaign that promoted the brand across a variety of new media platforms. The "Vaporized" campaign, created by PAX's internal team and advertising firms from New York and Canada, remains a controversial chapter in the company's history as critics are quick to point to several tactics that appeared to market JUUL products to underage users and non-smokers. Richard Mumby, PAX's chief marketing officer, said that their competitors' marketing efforts tended to be "overly reliant on the product," while JUUL's launch had "dynamic energy" about the brand (Harty, 2015). In short, the "Vaporized" campaign marketed to audiences in ways that cigarette companies cannot.

The campaign featured a diverse group of 20-to-30-year-old models using JUUL–fashionably dressed for a night out–set on vibrant backgrounds of blue, pink, and yellow [FIGURE 2]. Animated gifs of the models jumping, vaping, and blowing kisses were displayed on a 12-unit, multistory, video billboard flashing in Times Square–just yards from where Camel, Winston, and others had billboards decades ago. Between June and December, JUUL held at least 25 events in New York, Los Angeles, Las Vegas, Miami, and the Hamptons, where attendees–primarily social media influencers–were given free JUUL devices and sample pods. These events were organized by BeCore, a Los Angeles-based experiential marketing firm, which "designed, fabricated,

and managed a custom container to function as a sampling lounge" [FIGURE 3]. This marketing firm reported that it distributed over 5,000 free samples per event. JUUL sampling events continued over a year after its launch to market, with more free events taking place in large cities throughout 2016 and 2017. These events included rooftop movie nights, watch parties, and even an overnight "slumber party" at Hollywood's Forever Cemetery. JUUL often hired young, attractive women to pass out samples; when the company learned that distributing free tobacco products is forbidden by the Food and Drug Administration, they began selling samples for a dollar (SRITA, 2019).

In addition to experiential and outdoor marketing tactics, the "Vaporized" campaign promoted JUUL products through an email newsletter [FIGURE 4]. During the first year of the campaign, emails were intended to familiarize consumers with JUUL through invitations to sampling events, discounted starter kits, or interactive maps displaying locations where JUUL could be purchased. Subscribers received consumer testimonials about the device, and particularly, flavors like mango and mint. Emails were also used to incentivize customers to subscribe to monthly JUUL pod deliveries and introduced limited-edition devices to subscribers. In another commercial appeal to consumers, many emails included a JUUL savings calculator in which smokers could learn how much they could save by switching from cigarettes (SRITA, 2019).

The "Vaporized" campaign predominantly focused on experiential and social media marketing, but JUUL also made limited use of traditional channels like radio, television, and print. In Q3 and Q4 of 2015, JUUL spent over $538,000 on radio advertising and another $45,000 on outdoor advertising (Huang et al., 2018). To launch

the campaign, they advertised in a single print media outlet: VICE Magazine. Throughout 2015, JUUL took out several full-page advertisements on the inside of the cover page. As a lifestyle brand with a reputation for being drug-friendly and provocative, VICE was a channel that JUUL believed could reach a broad audience of young smokers. On the other hand, VICE markets itself to advertisers as "the number one youth media company."

So, just how receptive were focus group participants to JUUL's "Vaporized" campaign? Of the ten participants, nine had not been exposed to marketing materials directly from JUUL, and one recalled seeing a JUUL advertisement on Instagram in 2018. All participants, however, reported seeing JUUL-related promotions from accounts not affiliated with JUUL Labs. In focus group sessions, participants were shown an advertisement from the "Vaporized" campaign and asked to determine what messages JUUL is sending, and who is the campaign's target audience. The groups reached the consensus that JUUL advertisements focused more on the lifestyle surrounding the product than the product's appeal to adult smokers; many participants also held strong opinions about the models used in the campaign.

> "This picture almost makes it look like it's something that's super cool to do. The way she's holding it and stuff, it's not looked upon as something that's used to quit smoking cigs, it's more of a social thing" (Focus Group 1).
>
> "The way she's dressed, it's such a high school outfit. She looks younger, you wouldn't see anyone wearing that in college. It's meant to get the attention of a high schooler" (Focus Group 2)
>
> "This is a predatory campaign. '#Smokingevolved.' It's not like someone who's 60–smoking cigarettes–would use a hashtag. They're clearly going after an incredibly impressionable demographic" (Focus Group 2).

> "It looks pretty trendy. She's hot. It just seems like they're making it out to be a cool thing to do, not to quit smoking. Smokers usually look gross, that's not at all what I get from this girl" (Focus Group 3).

While most focus group participants were not aware of the "Vaporized" campaign during its run, they expressed concerns about the campaign's messaging and audience. It did not look like an advertising campaign aimed only at adult smokers; it attempted to destigmatize nicotine use to a broad audience. Just as PAX Labs succeeded in promoting its PAX device as a lifestyle brand, the "Vaporized" campaign followed suit by pushing JUUL as more than an e-cigarette.

Social Media Influence

The two-step flow of communication model hypothesizes that most people are not directly influenced by mass media, but by opinion leaders who interpret and contextualize media messages for them. Instead of the one-step, or hypodermic needle, model which argues mass media directly shapes public opinion, the two-step flow model recognizes that opinion leaders and social influencers are particularly persuasive (Katz and Lazarseld, 1955). While the two-step model has been debated for over six decades, the advent of social media and influencer marketing has given this theory credence. Influencer marketing is a rapidly growing, multi-billion-dollar industry, and it was certainly a key aspect of JUUL's social media strategy.

Kantar Media estimates that in Q3 and Q4 of 2015, JUUL spent over $1.6 million in various marketing channels, with approximately $1 million spent on internet display. Although JUUL's marketing budget was significant for a new e-cigarette brand, it was dwarfed by the $16 million Vuse spent on television marketing from

2015-2016. As with their sampling events, JUUL's social media strategy aimed to get influencers to use their products and share among their peers. JUUL maintained accounts on Instagram, Twitter, and Facebook to share user testimonials, product information, and to promote events and giveaways; they also paid influencers to serve as brand ambassadors, a tactic that makes discussion around the brand appear more authentic.

On Instagram and Twitter, JUUL accounts posted with a variety of company-created hashtags–most notably, #juul, #juulvapor, #switchtojuul, and #vaporized. JUUL accounts also posted with hashtags on trending topics unrelated to vaping–like #nyc and #goldenglobes–a tactic commonly used in the marketing industry to increase the reach of their posts on users' "trending" and "explore" pages. JUUL's social media prominence was also bolstered by user-created hashtags like #juullife, #juulnation, and #doit4juul. [FIGURE 5] Unpaid, peer-to-peer marketing played a significant role in JUUL's online popularity, as Instagram accounts like @Doit4juul grew to have more than twice as many followers as the official account, @JuulVapor. @Doit4juul is managed by EonSmoke, an online vape store specializing in JUUL-compatible e-juices and accessories. This vape store also managed @Juulnation and @Juulcentral, accounts that had greater followings than @JuulVapor before the accounts were deleted [FIGURE 6].

It is important to note that while user-created hashtags and fan accounts are outside the periphery of JUUL's control, these unaffiliated accounts directly market JUUL and associated products to a broad audience of underage non-smokers. College-oriented websites like Old Row–a popular lifestyle brand with a network of Instagram

accounts that have more than 300k followers–began selling unauthorized accessories like beer koozies with JUUL-holders, or JUUL skins adorned with messages like “Drive Fast, Eat Ass.” Barstool Sports frequently shared JUUL-related content on its Instagram accounts, reaching an audience of over seven million followers. University-specific affiliate accounts like @BarstoolDucks included JUUL iconography on Instagram stories requesting user-submitted content; in these animated gifs, JUUL devices and pods fall across the screen alongside cartoon footballs, beer cans, and red Solo cups [FIGURE 7].

In November 2018, Barstool Sports personality Tom Scibelli, AKA “Tommy Smokes,” appeared on Fox News to poke fun at the controversy surrounding the vaping industry. Scibelli’s appearance on the Ingraham Angle was doused in irony as he attempted–and failed–to perform cloud tricks over Travis Scott’s chart-topping hit “Sicko Mode,” but the panel did not seem to understand he was facetious. Wearing a “VAPE GOD” hat and sitting behind a chyron reading “Millennial Vaper Faces Off with Doctor,” Scibelli joked, “Honestly, [JUUL] is just cool. You rip them (he takes a drag), and there’s nothing cooler than blowing a fat cloud like that–they call me the colossus of cloud. It helps my swag, it helps my drip, it’s great for getting girls too” (Ingraham, 2018). While it is difficult to gauge the effects that this specific television appearance had on the public’s perceptions of vaping, this segment is worth mentioning because his comments encompass several concepts that came up in the focus groups. Most notably, the ironic humor that made vaping an online conversation, the popularity of cloud tricks, and the sex appeal of vaping.

Ultimately, the growth of JUUL's social media presence translated to a massive increase in retail sales. A 2018 study found a correlation coefficient of 0.968 between the number of JUUL-related tweets and the growth of JUUL retail sales; the least square regression found that the number of tweets alone accounted for 93% variation in JUUL sales in Nielsen-reporting stores. This study further concluded,

> "Marketing expenditures, the conventional measure of marketing influence, may no longer fully capture the extent, reach and influence of marketing and promotion for new and emerging tobacco products. The decrease in marketing expenditures for JUUL over time masks its highly successful, influential, engaging, wide-reaching campaigns on social media. In fact, our analyses show that JUUL's social media activities were highly correlated with JUUL retail sales. Targeted cross-platform social media campaigns, although they cost little, can have substantial influence on people's attitudes, beliefs and behaviors related to these products" (Huang et al, 2018).

JUUL faced immediate backlash for the "Vaporized" campaign. Tim McAfee, director of the CDC's Office on Smoking and Health, attributed the rising youth vaping rate to "the power of 21st-century marketing." The Campaign for Tobacco-Free Kids also expressed concern about the young models appearing in the campaign and claimed that JUUL was using adolescent-friendly tactics like celebrity endorsements, sponsorships, and flavors. The director of state communications for the Campaign for Tobacco-Free Kids, John Schacter, wrote, "We're seeing more and more irresponsible marketing of unregulated products such as e-cigarettes. We are concerned any time a new product or new advertising campaign goes public regarding cigarettes and tobacco and their addictive nicotine" (Harty, 2015).

Altria

Three years after the "Vaporized" campaign launched JUUL, the company had grown to capture approximately 75% of the e-cigarette market. The company was attracting a great deal of attention, both from regulators and corporations that wanted to position themselves in the booming e-cigarette industry. In December 2018, JUUL finalized a deal with Altria, one of the world's largest tobacco companies whose brands include Marlboro and Parliament. Altria's $12.8 billion investment gave them a 35% stake in JUUL, which was now valued at over $38 billion. In addition to $2 billion in employee bonuses, the deal gave JUUL access to Altria's vast distribution network that covers approximately 230,000 retail locations. "We are taking significant action to prepare for a future where adult smokers overwhelmingly choose non-combustible products over cigarettes by investing $12.8 billion in JUUL, a world leader in switching adult smokers," Altria CEO Howard Willard said. "We have long said that providing adult smokers with superior, satisfying products with the potential to reduce harm is the best way to achieve tobacco harm reduction" (LaVito 2018).

"Make the Switch"

In January 2019, as outrage against the company continued to mount, JUUL announced a new advertising campaign to assuage public concern. With their "Make the Switch" campaign, they realigned their messaging strategy to better fit their stated target audience: adult smokers looking to quit. Hallmarks of the "Vaporized" campaign–the young models, vibrant colors, and lifestyle-oriented hashtags–were replaced by testimonials from middle-aged smokers who switched to JUUL and

successfully quit smoking. Nicotine warning labels are now front and center, a major change from fine-print warnings found in the “Vaporized” campaign [FIGURE 8].

Despite FDA rules that prevent e-cigarette manufacturers from making unsubstantiated health claims, JUUL, and other brands like Blu, frequently allude to harm-reduction arguments by encouraging users to switch. While the tone of JUUL’s advertising fell in line with the mainstream, many focus group participants found the move to be an attempt at damage control.

> “They’re trying to get away from their earlier advertising; whether by choice or necessity” (Focus Group 1).
>
> “The character they used looks old enough where you could say he’s smoked in his lifetime and he made the switch and now he’s a reformed man. Also, the huge warning label is very interesting. This looks more concerning and straight-up. You can tell that they’re aiming for a different market–to say that young people aren’t who they’re going for” (Focus Group 2).

Messaging is not the only fundamental difference between “Vaporized” and “Make the Switch,” these campaigns also focused their spending on different channels. A plurality of the “Make the Switch” marketing budget, approximately $10 million, was spent towards television advertising, with TV spots airing on cable networks after 10 p.m. to target an older audience. They spent another $10 million on conventional channels like radio and print, with a lesser emphasis on online advertisements that only included user testimonials. In addition to these new advertisements, JUUL deleted their Instagram, Facebook, and YouTube accounts, and restricted the sale of non-cigarette pod flavors to their age-verified website. They also announced a $30 million investment into youth vaping prevention programs (Crook, 2019).

In response to the negative PR for their perceived role in the underage vaping crisis and their new relationship with one of the world's largest cigarette companies, JUUL went on the offensive with a lobbying campaign aimed at distancing themselves from Altria. Emails to JUUL newsletter subscribers read, "FACT: JUUL Labs is not Big Tobacco. We are an independent vapor company on a mission to eliminate cigarettes." In a December 2018 email sent to subscribers with the subject line "Be Heard in California," JUUL announced an action plan to curb youth e-cigarette use, and a grassroots community for supporters to lobby against California's proposed anti-vaping legislation [FIGURE 9].

Further Controversy

In July 2019, several JUUL executives appeared before the House Economic and Consumer Policy Subcommittee to answer questions regarding the company's marketing practices and role in the youth nicotine epidemic. Following the testimony, the Food and Drug Administration sent a warning letter to CEO Kevin Burns, finding that the company had broken the law. In this warning letter, Acting FDA Commissioner Ned Sharpless wrote,

> "Regardless of where products like e-cigarettes fall on the continuum of tobacco product risk, the law is clear that, before marketing tobacco products for reduced risk, companies must demonstrate with scientific evidence that their specific product does in fact pose less risk or is less harmful. JUUL has ignored the law, and very concerningly, has made some of these statements in school to our nation's youth. In addition, we're troubled about several issues related to JUUL's outreach and marketing practices that came to light in a recent Congressional hearing. We will continue to scrutinize tobacco product marketing and take action as appropriate to ensure that the public is not misled into believing a certain product has been proven less risky or less harmful. We remain committed to using all available tools to ensure that e-cigarettes and

> other tobacco products aren't being marketed or sold to kids. We've also put the industry on notice: If the disturbing rise in youth e-cigarette use continues, especially through the use of flavors that appeal to kids, we'll take even more aggressive action."

On September 25, 2019, JUUL announced major changes for its executive team and marketing strategy. They replaced CEO Kevin Burns with K.C. Croswaite, a former executive at Philip Morris and Altria. They also announced self-imposed restrictions to assuage public outrage, ending all U.S. print, digital, and TV advertising. On October 17, they entered into their first legally binding settlement regarding their marketing practices. This settlement with the Center for Environmental Health (CEH), a non-profit watchdog group, prohibits JUUL from advertising on social media or media outlets with more than 15% of their audiences under 21. They can no longer advertise within 1,000 feet of school or playgrounds, advertise with models under the age of 28, or sponsor or advertise at sporting events or concerts that allow minors.

CEH's executive, Michael Green, celebrated the decision, saying, "Young people today think that smoking is gross, so big tobacco switched to a new product: e-cigarettes." He added, "JUUL uses sophisticated and targeted marketing to convince youth that e-cigarettes are safe. We just couldn't sit back and allow big tobacco to hook a new generation of nicotine addicts." A JUUL spokesman maintained that their product is meant to be used only by adults as a smoking cessation method. The spokesman said, "This settlement affirms voluntarily responsible marketing practices that JUUL Labs has had in place–we have never marketed to youth and do not want any non-nicotine users to try our products" (Paul, 2019).

In November 2019, former FDA Commissioner Scott Gottlieb called for a full ban of pod-based e-cigarettes, including JUUL, Vuse, Njoy, and Blu. If enacted,

Gottlieb's policy prescription would be a death blow to the JUUL brand. "At these levels of youth use, it can be judged that they're not a responsible steward of their brand," Gottlieb said. "There's clear evidence that the manufacturers of JUUL can't, or perhaps won't, keep their products out of the hands of children." He did, however, distinguish between pod-based e-cigarettes and box mods. "We can preserve for adults the open-tank vaping systems that are sold in the adult vape shops. The kids just don't like those big open-tank contraptions" (Florko, 2019).

Chapter 3: Effects on Public Perception

In just a few short years, public attitudes toward e-cigarette users have undergone a fascinating transformation. For potential users and lawmakers alike, perceptions toward vaping have evolved with the changing demographics of e-cigarette users. When e-cigarette technology was in its infancy and seen solely as a harm reduction product, regulatory bodies like the FDA did little to step in as the products were primarily used by adult smokers trying to quit. Despite the "cig-a-like" appearances of many of these early devices, they largely failed to replicate the sensation of smoking combustible cigarettes and did not catch on as a result.

As vaporizer technology became more advanced and "cloud chasing" grew more popular, manufacturers changed their products and marketing appeals to reach this new demographic of hobbyists. When the e-juice and vape lounge industries became more lucrative, the FDA became more involved in the regulation of e-cigarette devices in 2016; but, despite the burgeoning popularity of vaping, "cloud chasers" and box mod users developed a negative stigma as a caricatured image of vapers grew more prevalent online.

Through my secondary research and focus groups, I have identified four concurrent factors that contributed to JUUL's popularity with underage or nicotine naïve users and helped make vaping–a previously mocked subculture–cool.

- JUUL is a superior product, more discrete and addictive than the three generations of e-cigarette devices preceding it;
- Youth awareness and intrigue towards e-cigarettes grew as vaping became culturally mainstream, and the devices became more accessible;

- Perceived differences between JUULers and box mod users gave JUUL a higher degree of social tolerance that transcended social cliques and was reinforced through social media conversation and memes;
- Youth-oriented advertising campaigns–enabled by regulatory differences between tobacco and e-cigarettes– were bolstered by unaffiliated and influencer marketing on social media that normalized vaping.

Product Superiority

In Chapter 1, I discussed the design philosophy that helped JUUL earn the nickname "the iPhone of e-cigs," as well as the product features that make it more sleek, functional, and addictive than its competitors. Although most focus group participants were not aware of this industry nickname, they could still see why it is appropriate:

> "Everyone has their iPhone on them at all times if they have one. It's the same thing with a JUUL. It's probably the most well-known, everyone has one. The box mod is like the Samsung, it's a little too technical and a little out of date. The JUUL is something everyone has, even though they may not know why it's better" (Focus Group 1).
>
> "JUUL just takes buying a pod. Before, you'd have to know what you're doing; you'd have to buy tanks and coils. But with JUUL you can have no idea what you're doing, and if you want to start vaping you can that day. It's so easy to start" (Focus Group 3).

Simplicity is a cornerstone of JUUL's design philosophy, and participants agreed that the device is remarkably easy to use. With box mods, there is a learning curve for new users as they must learn how to adjust atomizer resistance, replace parts, and refill the e-liquid tank. With JUUL, all they have to do is insert a pod into the battery and inhale.

The other key idea behind JUUL is that its nicotine delivery system replicates the experience of smoking better than other e-cigarettes. While some of the focus group participants were nicotine naïve before trying JUUL, the participants who were not agreed that JUUL delivers nicotine more efficiently than other products.

> "It was actually the bite of the JUUL that got me. I've had nicotine pens before the JUUL and they would feel peppery, you'd feel them on your tongue and say 'eh, I don't care about this.' This tastes like mint. And once you breathe in you get this bite at the back of your throat and get the dome, it's addicting" (Focus Group 2).
>
> "I think JUUL definitely hit the market the hardest. I remember being in high school when JUUL was just getting out there. There were other brands like Vuse–and they made so many flavors–but JUUL kept it simplistic with their flavors and aesthetically it looked pleasing. They were doing something right that other competitors weren't doing" (Focus Group 3).
>
> "It seems like vaping was more of a hobby, while JUUL is seen as closer to cigarettes than a box mod ever was, just because their flavors were super fruity and this way you get a bigger dome. It's much more similar to a cigarette in my opinion. Less for sport as well" (Focus Group 2).

In addition to finding the product addictive and simple to use, focus group participants frequently mentioned how discreet vaping with JUUL can be, often citing examples in which they have vaped in public. JUULing in school bathrooms is very common; school districts across the country have gone as far as installing vape sensors and security cameras in bathrooms–or as some students affectionately call them, "JUUL rooms" (Mielke and Terez, 2018).

Awareness and Intrigue

JUUL is now the preferred brand for a majority of adolescent e-cigarette users, but youth vaping rates had been rising years before JUUL was released to market. Between 2011 and 2015, e-cigarette use among middle schoolers and high schoolers increased by approximately 900%, according to the 2015 National Youth Tobacco Survey. In this period, around 3 million students reported using e-cigarettes, almost double the number who reported smoking cigarettes (NYTS, 2019). As the "cloud chasing" subculture grew, vape lounges became a booming industry; in fact, they were the fastest-growing retail segment from 2009 to 2019 (Van Dam, 2019). In 2014, "vape" was crowned word of the year by the Oxford English Dictionary, who claimed that usage of the word had more than doubled over the previous year (France, 2014).

Vaping was now culturally mainstream, and the FDA took notice. In 2015, the rate of high school e-cigarette use had reached a high of 15%. When new regulations came into effect in 2016, this rate dropped to approximately 11%, where it remained in 2017 (NYTS, 2019). At this time, JUUL had launched its "Vaporized" campaign, but adolescent JUUL use was still in the early adopter stage. I asked focus group participants if they remember being exposed to vaping on social media before they were introduced to JUUL. While most participants recall holding negative opinions of vapers at this time, some participants said they were intrigued by vaping.

> "I remember watching those videos on YouTube back when I was starting to smoke weed. We'd see it and try doing it with a joint. Even though we were making fun of those videos, we were still trying to learn to blow O's because it's cool. We make fun of it, but when we do it, I feel like it's fine because we're classier" (Focus Group 2).
>
> "When I was in middle school, I followed some guy on Instagram who had about a million followers, he worked at a vape store and did cloud

> tricks. I thought it was cool at the time, I was maybe in seventh or eighth grade" (Focus Group 3).
>
> "I wouldn't say that I thought they were cool, but they were intriguing. I think at the time, I'd never go out of my way to hit a box mod and try those tricks, but I thought it was intriguing how these guys professionally vape" (Focus Group 3).

"Cloud chasing" social media influencers and the proliferation of vape lounges familiarized adolescents with the concept of vaping and provided them with outlets to potentially buy e-cigarettes, but adolescent demand for e-cigarettes had yet to take off as they often associated vaping with a particular–and unfavorable–subculture.

JUULers vs. Kyles

Data collected from 2015-2016 found "the majority (61%) of participants had negative overall opinions toward adolescent e-cigarette users. […] Participants sometimes endorsed negative traits (i.e., unattractive, trashy, immature, disgusting, and inconsiderate) to describe e-cigarette users" (McKelvey, et al., 2018). The findings of this study were not isolated; the prevailing image of vapers–and specifically box mod users–was overwhelmingly negative and became a running internet joke. For adolescents to embrace e-cigarettes, the appearance of vaping had to be de-stigmatized.

I asked focus group participants to describe a typical box mod user, and the similarity of their descriptions is notable. In all three sessions, the participants came close to imagining a single caricature of a box mod user; two groups even gave their vaper the same name.

> "Kyle, maybe in his 20s or 30s, on the chubbier side for sure, probably drinking a monster energy in a snapback. I bet his car smells weird and he's hitting his mod all the time. They want to be seen blowing clouds.

> They might have some Oakley's on, maybe they have a beard. They're kind of just grimy" (Focus Group 2).
>
> "I feel like they're in the older crowd. The Sourin and the JUUL come to mind with young, high school, college people, but I think of box mod users as old school or skater kid. The kid who sits in the back of the school and hits his box mod. Or maybe an older hippy type. they have the big beards and long hair, they're more into the technical stuff" (Focus Group 1).
>
> "There's such a weird stigma around it. They make it seem like JUULing and using small vaporizers is cool and hip, and then the big box mod guy is a Rockstar-drinking trailer park hipster" (Focus Group 3).

"Kyle" is an online caricature often referenced in memes. "Kyle" is an aggressive, lower-class, young white man with an affinity for energy drinks, box mods, and punching holes in drywall. These characters have grown popular on social media; r/Kyle, a subreddit for "Kyle" memes, now has over 8,300 members (Reddit, 2009). While this character is well-known by adolescents on social media, it was surprising that they assigned such a negative image of an e-cigarette user when most participants were e-cigarette users themselves.

When participants were asked to describe a typical JUUL user, their answers painted a very different image from the caricatured box mod user they described moments before. A 2018 study shows that adolescents who use e-cigarettes are more likely to hold favorable opinions of their peers who also vape (McKelvey, et al., 2018). While I expected participants who JUUL to assign more positive characteristics to fellow users, I was surprised that they often differentiated between JUULers and box mod vapers as if they are distinct groups.

> "If you ever pulled out a box mod at a party, you'd definitely get made fun of" (Focus Group 1).
>
> "Box mods was the look of wearing a monster hat, baggy jeans or cargos. You're just blowing smoke and it's going everywhere. With the

> JUUL, it's not that much smoke. It's pretty discreet, and it's less in your face. You're just hitting the JUUL, not blowing massive vape clouds. It's more appealing" (Focus Group 2)
>
> "If you told me seven years ago that vaping was going to be cool and promoted, I'd laugh in your face. Do you remember how you'd shit on people so hard when you're in middle school because vaping was so weak, now everyone's addicted to nicotine because of JUUL" (Focus Group 3).

Drawing such a distinction between JUUL users and box mod users may seem like cognitive dissonance, but other studies have found that this view is quite common. A 2018 study concluded that, "some participant accounts demonstrated that pod devices may have instigated a shift in the social meanings associated with using e-cigarettes towards even greater acceptability. While large box mods can evoke stereotypes of ostentation or disrespect, pod devices may not be subject to this stigma" (Keamy-Minor, et al., 2019). Participants in this study also shared very similar views about the social acceptance of JUUL use. One participant in this study said, "Like two years ago if you were out vaping, we would just make fun of you the whole time we were smoking. And we'd just call you, like, you little sissy. Just smoke real cigarettes" (Keamy-Minor, et al., 2019).

Social Normalization

The social normalization of adolescent e-cigarette use can be attributed to several factors, but perhaps the most significant is the role of peer influence. From influencer marketing on social media sites to exposure in social situations, JUUL may not have caught on if it were not for influential people talking about it.

Ecological Systems Theory dictates that youth development is guided by influence across multiple levels: the macrosystem–broad societal influences such as culture and public policy–and the microsystem, relationships closer to the individual such as peers and family. Schools are a critical environment that shape youth health-risk behaviors, and e-cigarettes are not an exception; students who attend schools where vaping is common are more likely to vape themselves (Lippert, et al., 2019).

Focus group participants in all three sessions said they had seen JUUL being used at their high schools, and some participants were first introduced to e-cigarettes while at school. But unlike box mods, which are associated with a specific subculture, JUUL use transcended social cliques and drew nicotine naïve users to try vaping.

> "Once you see everybody else doing it, you're like, 'it's not that bad I guess.' Once it started attracting a different crowd that wasn't Kyles, then it started becoming more acceptable" (Focus Group 2).
>
> "In high school, the athletes did it too. It wasn't just one crowd that partied or something. It's more innocent. People didn't think that it's gross or harmful; it's just clean" (Focus Group 2).
>
> "Once you see a hot girl doing it, it becomes a lot cooler. You see the ASB types coming around, hitting JUULs and you realize it's attracting all sorts of crowds, that's when it got normalized" (Focus Group 2).
>
> "Girls carry a lot of judgement, at least that's how it seems, so seeing them at social events and using JUUL definitely destigmatizes vaping a little bit, since a lot of the judgement you'd expect is from somebody who is now doing it too" (Focus Group 3).

As JUUL became pervasive in the microsystem, it quickly made its way into the macrosystem through social media. Focus group participants reported seeing their peers JUULing on Snapchat or Instagram every day; they were also exposed to unaffiliated marketing from popular lifestyle brands and viral tweets about e-cigarette use. JUUL soon became a meme, and a relatable one.

> "I used to see JUUL on college humor websites all the time. I still see it pretty often, but about a year ago I'd see them promoting off-brands every single day. They're definitely promoting it. They're not saying it's bad for you. They're just making the joke that everybody does it" (Focus Group 3).
>
> "I'd say that the JUUL for our generation has become a meme, which elevated it to a level of social acceptance. We can be making fun of the people who do it; but at the same time, we're doing it too, just not being obnoxious about it. You just hit the JUUL. It's a normalized thing" (Focus Group 2).

When "cloud chasers" were the prevailing image of e-cigarette users, "we get it, you vape" emerged as a meme. Along with "Kyle," these representations of obnoxious, unattractive vapers were engrained in the collective psyche of adolescents [FIGURE 10].

But JUUL memes –more often than not–draw from the common experience of teenage vaping [FIGURE 11]. When Buzzfeed publishes listicles like "24 Tweets About JUUL's That Only Teens Will Find Funny," they acknowledge that vaping is popular, topical, and relatable. To young people, acknowledgement that JUUL is an omnipresent habit can be seen as an endorsement. While the "Vaporized" campaign may have introduced youth to JUUL, it did not promote the device on its own; unpaid, peer-to-peer marketing played an indeterminate but substantial role in turning what was once seen as a niche market for adult smokers into a public health epidemic.

Conclusion

Summary

Chapter 1 provides a historical overview of the e-cigarette industry to contextualize JUUL's launch campaign and resolve several research questions:

How has e-cigarette technology developed?

E-cigarettes were created as a reduced-harm product to deliver nicotine without the carcinogens found in combustible cigarettes. Early designs, especially "cig-a-like" models, attempted to replicate the tactile aspects of smoking but failed at delivering satisfactory concentrations of nicotine. The designs of today's e-cigarette devices vary dramatically. Second and third-generation e-cigarettes put greater emphasis on vapor and allowed for more user-customization as atomizers and batteries became more technologically advanced. Manufacturers offer a wide variety of products, nicotine concentrations, and e-juice flavors for consumers to choose from. This diversity made vaping more popular as the vape lounge industry soared and attracted a new demographic: hobbyist users.

What makes JUUL stand out from competitors?

JUUL is an e-cigarette unlike any that came before it, as its design philosophy emphasized simplicity and nicotine delivery. Consisting of just a battery and a JUUL pod, its basic design made the product more accessible to new users than box mods, which require a greater degree of technical knowledge. JUUL's e-liquid produces a more discrete and less offensive vapor than many box mods, and nicotine salts deliver a

higher nicotine concentration that better replicates the sensation of smoking and makes it more addictive to nicotine-naïve users.

How were vaporizers marketed before JUUL?

Despite FDA rules that prohibit manufacturers from making unsubstantiated health claims, e-cigarette brands have long promoted their products as a method of smoking cessation. Regulatory differences between cigarettes and e-cigarettes stemming from the 1998 Tobacco Master Settlement Agreement gave e-cigarette brands license to advertise in mediums that cigarette manufacturers cannot, including billboards, sponsorships, and television. As technology grew more advanced and "cloud chasing" subculture reached the mainstream, some e-cigarette purveyors advertised the technical aspects of their products as well as the social image of vaping.

Have user motivations for vaping changed with the technology?

While user motivations for vaping are dependent on the individual, evidence suggests that e-cigarettes are a consumer-driven revolution. Between 2012 and 2014, the most popular e-cigarette brands were first-generation designs that emphasized smoking cessation in their advertisements. During this period, "cloud-chasing" also grew more popular thanks to a large subculture of tech-enthusiasts and hobbyists. Some studies have suggested that user motivations for vaping shifted in 2015, as social image surpassed smoking cessation as the primary motive for e-cigarette use.

Chapter 2 explores the marketing strategies JUUL used in their controversial "Vaporized" campaign, as well as the role social media played in diffusing awareness of the brand.

Is JUUL's "Vaporized" campaign responsible for instigating the youth vaping crisis? What role did social media play in spreading its popularity?

"Vaporized" was a multi-million-dollar campaign that effectively used a two-step communication strategy to set JUUL apart from other brands, making it popular with smokers and nicotine-naïve users alike. The campaign utilized experiential marketing in its sampling events, coupled with advertising in more traditional mediums that appeared to push JUUL as a lifestyle brand rather than just being a smoking cessation device. Regulatory gaps enabled JUUL to advertise in ways that tobacco companies cannot, and with these innovative yet ethically questionable marketing practices, JUUL accelerated to the top of the e-cigarette industry.

But critics of the "Vaporized" campaign may be assigning it too much credit in the prevalence of underage vaping, as high school vaping rates had been climbing for nearly five years before the campaign's launch. In addition, these rates fell in 2016–immediately after JUUL's release–largely due to increased regulation by the FDA. While few focus group participants recall seeing "Vaporized" campaign materials directly from JUUL, all participants were exposed to influencer and unaffiliated marketing that promoted its products. Although the "Vaporized" campaign may have crossed an ethical line by appealing to nicotine-naïve users, that does not mean they broke the law or are the only party responsible for the surging rates of underage e-cigarette use. Opinion influencers, unaffiliated social media accounts, and socially

constructed memes outside of the periphery of JUUL's control also helped popularize and normalize nicotine to a new generation.

Chapter 3 addresses the role that JUUL had in shifting perceptions of vaping for adolescent non-smokers, and the factors contributing to JUUL's popularity with underage users.

What attracts nicotine naïve users to try JUUL?

Several factors contributed to JUUL's significant market share and popularity with nicotine-naïve users: (1) JUUL is a superior product, more discrete and addictive than the devices preceding it; (2) youth awareness and intrigue toward e-cigarettes grew as vaping became more accessible and culturally mainstream; (3) perceived differences between JUULers and box mod users gave JUUL a higher degree of social tolerance that transcended social cliques and was reinforced through social media conversation and memes; (4) youth-oriented advertising campaigns–enabled by regulatory differences between tobacco and e-cigarettes–were bolstered by unaffiliated and influencer marketing on social media that normalized vaping.

Do young people view "JUULing" differently from vaping? If so, how did this disparity come about?

Focus group participants shared contrasting views of JUUL users and box mod users, often assigning box mod users with overwhelmingly negative traits. Participants believed that JUUL use had not just been de-stigmatized, but normalized; box mod use, on the other hand, is still seen as undesirable and abrasive. Participants assigned a

caricatured image– “Kyle”–to box mod users and “cloud chasers,” while they viewed JUUL as a product that’s popularity has transcended social cliques and may be adopted by anyone. These disparate views of different e-cigarette users have existed as memes for years and have been reinforced through social media, particularly by lifestyle brands that target the college-aged demographic.

When Bowen and Monsees presented their thesis nearly fifteen years ago, they asked the audience, “What if smoking were safe? Or even better, what if smoking were not offensive to others as well?” In their pursuit to create a less-harmful, more socially acceptable alternative, they inadvertently changed user perceptions of vaping and made e-cigarettes appear more dangerous. In less than five years, public attitudes toward e-cigarettes have transformed dramatically. What started as a niche, underdeveloped, market for smokers trying to quit evolved into a frequently mocked subculture of hobbyists as vaping technologies advanced and marketing appeals diverted from smoking cessation messages. As user motives for vaping shifted with the products, the social tolerance–and perceived social harm– of e-cigarettes has changed as well.

Limitations

There are some limitations to the focus groups conducted for this study; low replicability and generalizability are inherent limitations for this method of research. The sample size (N = 10) is not large enough to form generalizations about an entire college population’s perceptions of e-cigarette use, and the use of a purposive, all-male

sample does not accurately reflect the demographics of undergraduates at the University of Oregon.

The secondary data was limited by deleted social media accounts. In November 2018, JUUL deleted posts that they deemed youth-oriented from their social media accounts and removed material from third-party accounts, several of which helped fuel JUUL's online popularity. Accounts like @DoIt4JUUL, @JUULgang, and @JUULgirls had followings in the tens of thousands and promoted the brand to underage users. Their removal from Twitter and Instagram made it more difficult to locate examples of unaffiliated influencer accounts, although some examples were archived by Stanford University Research into the Impact of Tobacco Advertising (SRITA).

Significance

The e-cigarette industry, and particularly e-cigarette marketing, is an often-overlooked area of academic research that will only grow more significant as the controversies surrounding JUUL and underage e-cigarette use persist. This thesis adds to the existing scholarship on the subject by providing an extensive case study of the e-cigarette industry's relatively brief but disruptive history, as well as an analysis of the regulatory, product, and marketing factors contributing to the recent vaping epidemic. The pairing of a case study with primary research is unconventional in this area of research as it provides more context than most contemporary studies into e-cigarette use. The primary research is unique as it examines the experiences of college-aged fraternity members, an influential yet underrepresented population in health behavior research, as well as the social media conversations surrounding this topic. There is a multitude of opportunities for future research into e-cigarette marketing, as this is a

dynamic and timely debate. Specifically, research into the potential long-term consequences of JUUL's popularity with underage users for the e-cigarette industry, and the ways in which competitors are adapting their strategies in this new paradigm. Perhaps the most difficult aspect of writing this thesis was keeping up with current events, as new lawsuits and investigations seemed to be launched every day. This subject is one that must be examined further in years to come, as overlooking the potential of the e-cigarette industry helped bring us to this point.

Figure 1: Focus Group Guide

Focus Group Guide

Hello and welcome, thank you for agreeing to participate in today's focus group. My name is Matt McGonegal and I am a senior public relations student in the Robert D. Clark Honors College.

Our discussion today is part of my undergraduate thesis which explores the factors contributing to the e-cigarette maker JUUL's popularity and the public's perceptions of vaping, specifically non-smokers under the age of 25. The purpose of this research is to better understand college students' perceptions of vaping and the marketing/product factors contributing to the popularity of vaping products.

I appreciate your willingness to participate in this session and can assure you that the risk of breach of confidentiality is low. Data will be stored on a password-protected computer/smartphone and will not contain any identifying information. All recordings will be destroyed after transcription. No identifiers will be present within the transcripts.

I have a few guidelines to facilitate today's discussion:

- I want you to do the talking and for everyone to participate. I will call on you if I haven't heard from you in a while
- There are no right or wrong answers. Everyone's experiences and opinions are valuable, so speak up whether you agree or disagree. I don't anticipate consensus, just sharing

- What you say in this room should remain here. You should be comfortable to share anything, even if sensitive issues come up. The audio will be destroyed after it is transcribed for qualitative coding.
- Please don't disparage another's comments, please give everyone a chance to express their opinions during this session. You are welcome to address each other; I am only here to assist in the discussion and ask questions.
- The discussion will last no longer than 1.5 hours.

  Any questions?

Section 1: JUUL's popularity:

- So how many of you either own a JUUL, or have used one in the past week?
- If you use regularly, have you ever regularly smoked cigarettes? How about other electronic cigarettes with nicotine, or THC vaping products?
- Did you use any other tobacco, or vaping products prior to trying JUUL?
- How frequently do you see one being used in public?
- Do you know anyone who uses JUUL to quit smoking cigarettes?
- If you had to estimate, what percentage of JUUL users that you know, started as non-smokers? (Started using JUUL for reasons other than smoking cessation)

Section 2: Marketing factors

- How often do you see advertisements/ marketing materials directly from JUUL, on television, social media or in print?
- Have you seen any advertisements from their "Vaporized" campaign?

[Participants are shown images from the "Vaporized campaign, seen in Figure 2]

- After seeing these ads, what message do you think JUUL is sending?
- Who is the audience for this campaign?
- Have you seen any of their more recent advertisements, “Make the switch” campaign?

[Participants are shown images from the “Make the switch” campaign, seen in Figure 3]

- After seeing these ads, what message do you think JUUL is sending?
- Who is the audience for this campaign?
- How often do you see JUUL referenced on social media by other sources, like Barstool, Old Row, Total Frat Move? Any other accounts?
- In your opinion, do the tone of these posts, generally speaking, condone and normalize JUUL use, or mock JUUL users?
- Do you believe these sources portray JUUL users differently than vapers who use other vaping products?
- How often do you encounter “vape influencer” accounts that show “cloud tricks”, review flavored e-juices, or advertise vaping products?
- Can you name any celebrities that use or promote JUUL?

Section 3: Product factors

- What features of the JUUL make it so appealing?
- Would you use an electronic cigarette or other vaping systems that don’t use pods, but refillable e-juices?
- Have you ever heard JUUL referenced as the “iPhone of e-cigs?” Do you think that’s a fair assessment of the product?

- What role do you think that non-tobacco, non-menthol flavors play in JUUL's popularity?
- If you use JUUL, what flavors do you usually buy? Have the recent regulations on flavored pods prevented you from buying the pods you want?
- In your opinion, do you believe that JUUL offers flavors like mango, fruit medley, cucumber, and creme brulee with the intent to appeal to underage users or non-smokers?

Section 4: Differentiating factors, perceptions

- So why is JUUL more popular than the dozens of e-cigarette devices that came before it?
- What do you think makes this product so controversial?
- In your opinion, do you view "JUULing" as different from "vaping" (with a box mod or another e-juice device)
- Do you think that people of our generation view one as cooler than the other?

Section 5: Exposure to anti-tobacco and anti-vaping messages

- What are the dangers you see regarding nicotine, e-cigarette use? Safer than smoking?
- Have you ever seen an article about the recent vaping deaths, whether on Twitter, Snapchat news, or another news source, that references JUUL?
- Do you think that JUUL is killing people?

Figure 2: “Vaporized” campaign image, 2015

This image from JUUL’s 2015 “Vaporized” launch campaign was shown to focus group participants in all three sessions. Like other advertisements from the “Vaporized” campaign, this image features a young, attractive model, a pattern with vibrant colors, and the campaign’s hashtag: “#SmokingEvolved.” Focus group participants were asked if they had previously been exposed to these advertisements, what messages JUUL is sending about the product, and who the intended audience is. While a majority of focus group participants had not previously seen this campaign–or were not compelled to start using JUUL as a result–they agreed that this advertisement appeals to an audience of young non-smokers.

Figure 3: JUUL vapor tent at Nocturnal Wonderland music festival, September 2015

This image from JUUL's official Instagram account, @juulvapor, shows music festival attendees with JUUL products in a sampling lounge designed by BeCore Experiential Marketing Agency. Between June and December. 2015, JUUL hosted at least 25 events in major cities and provided thousands of free samples to attendees. Notice the use of generic, loosely related hashtags like #gadgets and #style as well as the festival's location tag. This tactic is commonly used in social media marketing to increase the reach of a post by having it appear on the "explore" page for more users.

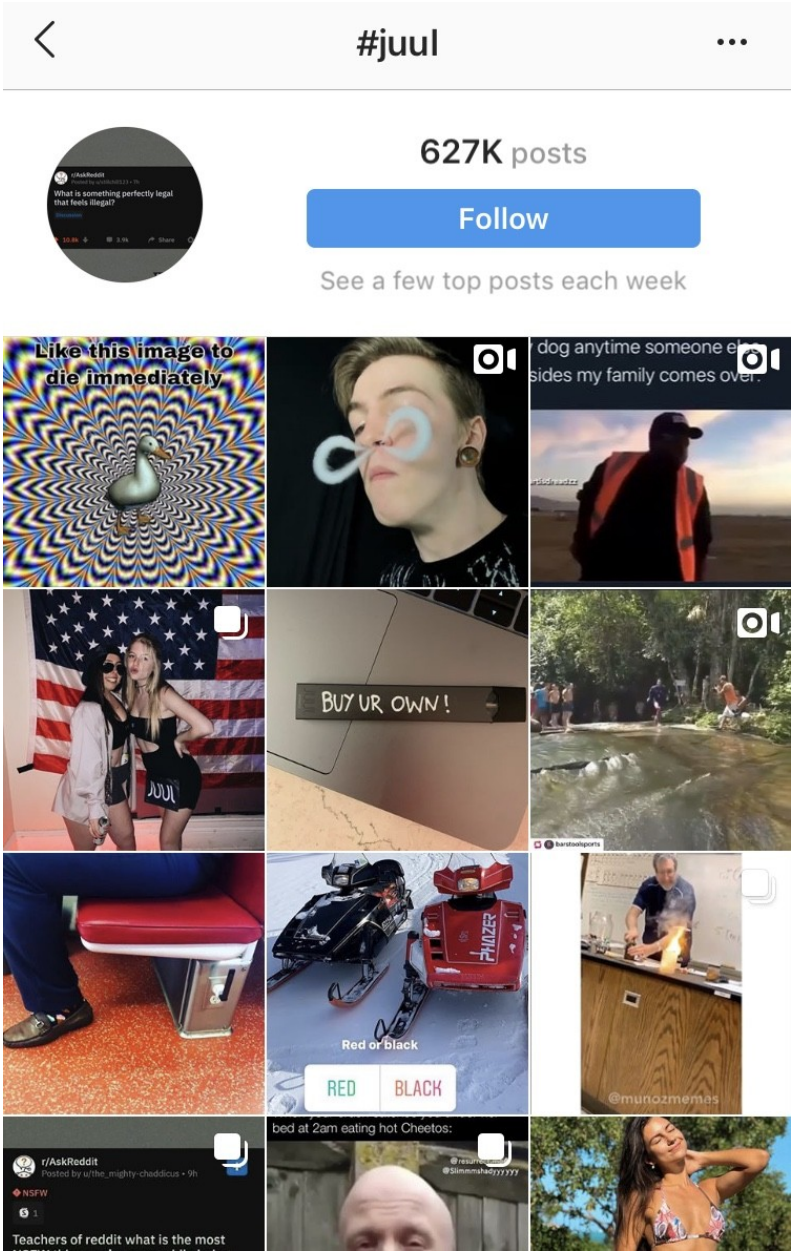
Figure 4: JUUL email, November 2015

JUUL routinely sent emails to subscribers, often themed around the season. This holiday email introduces subscribers to a limited-edition flavor and includes links to a store locator, an auto-shipping service for pods, as well as the JUUL website.

Figure 5: @JUULvapor tweet at the Met Gala, May 2016

This tweet from JUUL's official account draws attention to pop star Katy Perry's use of a JUUL device at the Met Gala, one of New York City's most famous social events. Although she does not provide a testimonial for the product, disseminating this image of her and the device is still a tactic of JUUL's influencer strategy. Notice that in addition to using #JUULvapor to promote their brand, JUUL includes #metgala so that the post will appear in Met Gala conversations.

Figure 6: Unaffiliated marketing on Instagram, November 2019



This November 2019 screenshot of Instagram's "explore" page shows that #juul has appeared in over 627,000 posts. Juul is frequently referenced in posts unrelated to vaping; it appears in posts ranging from girls in swimsuits to ironic memes ordering the viewer to "like this image to die immediately." Other hashtags may include #vape (28 million posts), #vapelife (16.3 million posts), or #juulnation (57,000 posts).

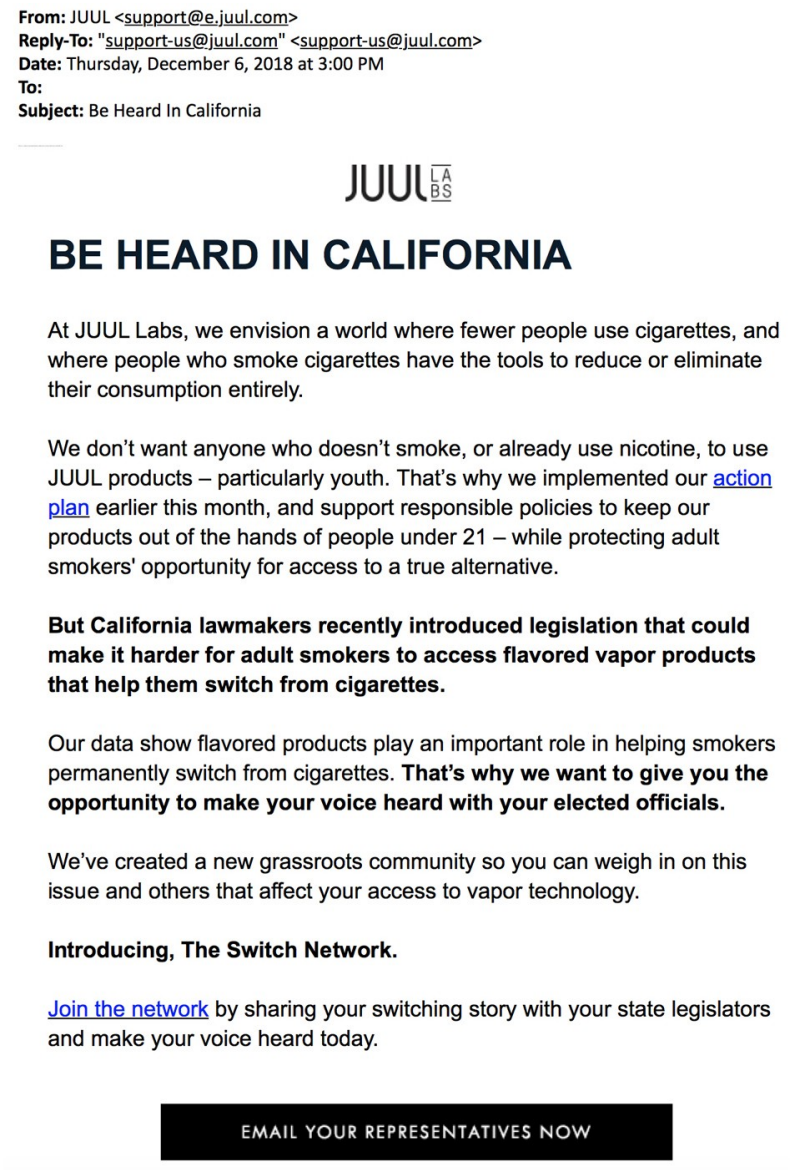
Figure 7: JUUL iconography on college lifestyle accounts, October 2019

This Instagram story from @BarstoolDucks, a Barstool Sports affiliate account targeted at University of Oregon students, includes JUUL devices in its design. While this marketing is outside the periphery of JUUL's control, college-oriented lifestyle brands have played a major role in normalizing e-cigarette use. Here, JUUL iconography is included alongside red Solo cups, footballs and beer cans, suggesting that JUUL is now among these symbols of the college experience.

Figure 8: “Make the Switch” campaign image, 2019

This image from JUUL’s 2019 “Make the Switch” campaign was shown to focus group participants in all three sessions. Like other advertisements from this campaign, this image features an older model presenting a testimonial about the product and includes a large nicotine warning. Participants were asked if they had previously been exposed to these advertisements, what messages JUUL is sending about the product, and who the intended audience is.

Figure 9: JUUL newsletter ,December 2018



From: JUUL <support@e.juul.com>
Reply-To: "support-us@juul.com" <support-us@juul.com>
Date: Thursday, December 6, 2018 at 3:00 PM
To:
Subject: Be Heard In California

JUUL LABS

BE HEARD IN CALIFORNIA

At JUUL Labs, we envision a world where fewer people use cigarettes, and where people who smoke cigarettes have the tools to reduce or eliminate their consumption entirely.

We don't want anyone who doesn't smoke, or already use nicotine, to use JUUL products – particularly youth. That's why we implemented our action plan earlier this month, and support responsible policies to keep our products out of the hands of people under 21 – while protecting adult smokers' opportunity for access to a true alternative.

But California lawmakers recently introduced legislation that could make it harder for adult smokers to access flavored vapor products that help them switch from cigarettes.

Our data show flavored products play an important role in helping smokers permanently switch from cigarettes. **That's why we want to give you the opportunity to make your voice heard with your elected officials.**

We've created a new grassroots community so you can weigh in on this issue and others that affect your access to vapor technology.

Introducing, The Switch Network.

Join the network by sharing your switching story with your state legislators and make your voice heard today.

EMAIL YOUR REPRESENTATIVES NOW

This email sent to subscribers came in the midst of JUUL's legal battle with the city of San Francisco. Along with their "Make the Switch" campaign, JUUL's PR team is working to change public perception by rallying the support of smokers.

Figure 10: Anti- box mod meme

Anti-box mod memes like this one emerged when “cloud chasing” was at the height of its popularity. Memes in this format include photos of fog or smoke with captions that suggest it came from a box mod.

Figure 11: Pro-JUUL memes

While box mod memes typically mock the vaper, JUUL memes usually rely on the shared experiences of JUUL users. The opposing tones of these formats (mocking vs. relating) reinforce differences between these vaporizers and their users, often normalizing JUUL use.

Bibliography

"About Us." (n.d.) *Avid Lyfe, Inc.* https://www.avidlyfeinc.com/about-us.

Ayers, JW; et al. (2017, March 1). "Why do people use electronic nicotine delivery systems (electronic cigarettes)? A content analysis of Twitter, 2012-2015. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0170702.

Bhatnagar, A.; et al. (2014, August 24). "A Policy Statement from the American Heart Association." *AHA Journals*. Vol. 130, No. 16.

Biggs, J. (2012, June 17). "Smoke Up: An Interview With The Creator Of The Ultracool Pax Vaporizer." *Tech Crunch*. https://techcrunch.com/2012/06/17/an-interview-with-the-creator-of-the-ultracool-pax-vaporizer/.

Boseley, S. (2015, June 9). "Hon Lik invented the e-cigarette to quit smoking–but now he's a dual user." *The Guardian.* https://www.theguardian.com/society/2015/jun/09/hon-lik-e-cigarette-inventor-quit-smoking-dual-user.

Bowen, A.; Monsees, J. (2005, June). "Ploom: The Rational Future of Smoking." Presented at Stanford University, Palo Alto, California.

Crook, J. (2013, July 2). "Review: Ploom ModelTwo E-Cig Vaporizer." *Tech Crunch.* Online. https://techcrunch.com/2013/07/02/review-ploom-modeltwo-e-cig-vaporizer/.

Crook, J. (2019, January 8). "Juul launches 'make the switch' TV campaign aimed at adult smokers." *TechCrunch.* Online. https://techcrunch.com/2019/01/08/juul-launches-make-the-switch-tv-campaign-aimed-at-adult-smokers/.

Dunworth, J. (2013, October 2). "An Interview with the Inventor of the Electronic Cigarette, Herbert A Gilbert." *E-Cigarette Direct*. Online. https://www.ecigarettedirect.co.uk/ashtray-blog/2013/10/interview-inventor-e-cigarette-herbert-a-gilbert.html.

Dunworth, J. (2014, June 23). "Vaping 1970's Style: An Interview with One of the Pioneers." *E-Cigarette Direct.* Online. https://www.ecigarettedirect.co.uk/ashtray-blog/2014/06/favor-cigarette-interview-dr-norman-jacobson.html.

Erickson, D. (2011, February 24). "Ploom Review." *Electronic Cigarettes Reviews.* Online. https://www.electroniccigarettesreviews.net/ploom/review/.

Etter, L.; Elgin, B.; Huet, E. (2019, October 10). "Juul is the new Big Tobacco." *Bloomberg Business.* Online. https://www.bloomberg.com/news/features/2019-10-10/juul-is-the-new-big-tobacco-as-anger-over-teen-vaping-escalates.

"Favor Smokeless Cigarettes Regular–vintage American Cigarette Pack." (2017, April 4). *Cigarette Collector*. http://cigarettecollector.net/2017/04/04/favor-smokeless-cigarettes-regular-vintage-american-cigarette-pack/.

Florko, N. (2019, November 12). "Former FDA commissioner calls for a full ban on pod-based e-cigarettes." *STAT News*. https://www.statnews.com/2019/11/12/gottlieb-ban-pod-based-e-cigarettes/.

Food and Drug Administration. (2016, May 10). "Deeming Tobacco Products To Be Subject to the Federal Food, Drug, and Cosmetic Act …" 81 FR 28973.

France, L.R. (2014, November 18). "The Oxford 2014 word of the year is…" *CNN*. https://www.cnn.com/2014/11/18/living/oxford-word-of-the-year-vape/index.html.

Geller, M. (2015, June 9). "E-cigs a 'consumer-driven' revolution born from a bad dream." *Reuters*. Online. https://www.reuters.com/article/us-ecigarettes-inventor/e-cigs-a-consumer-driven-revolution-born-from-a-bad-dream-idUSKBN0OP1YV20150609.

Gilbert, H.A. (1965). *US 3200819A*. Retrieved from https://patents.google.com/patent/US3200819.

Harty, D. (2015, June 23). "Juul hopes to reinvent e-cigarette ads with 'vaporized' campaign." *Ad Age.* Online. https://adage.com/article/cmo-strategy/juul-hopes-reinvent-e-cigarette-ads-campaign/299142.

HHS. (1987, February 9). "Regulatory Letter Favor Smokeless Cigarettes …" *University of California, San Francisco, Truth Tobacco Industry Documents.*. https://www.industrydocuments.ucsf.edu/tobacco/docs/#id=xggy0038.

Huang, Jidong; et al. (2018, May 31). "Vaping versus JUULing: how the extraordinary growth and marketing of JUUL transformed the US retail e-cigarette market." *Tobacco Control 2019*; 28:146-151.

Huddleston, T. (2015, June 10). "Pax Labs takes on Big Tobacco for e-cig dominance, announces $46.7 million funding round." *Fortune.* https://fortune.com/2015/06/10/pax-labs-funding/.

Ingraham, L. (Producer). (2018, November 15). *The Ingraham Angle* [Television broadcast]. Washington, DC: Fox News Channel.

Jackler, R.; Ramamurthi, D. (2019, February 6). "Nicotine arms race: JUUL and the high-nicotine product market." *Tobacco Control 2019;* 28: 623-628.

Katz, E., Lazarsfeld, P. (1955). "Personal Influence: the Part Played by People in the Flow of Mass Communications." pp. 309.

Keamy-Minor, E.; et al. (2019, April 4). “Young adult perceptions of JUUL and other pod electronic cigarette devices in California: a qualitative study.” *BMJ Open.* https://bmjopen.bmj.com/content/9/4/e026306.

LaVito, A. (2018, December 20). “Tobacco giant Altria takes 35% stake in JUUL, valuing e-cigarette company at $38 billion.” *CNBC News.* https://www.cnbc.com/2018/12/20/altria-takes-stake-in-juul-a-pivotal-moment-for-the-e-cigarette-maker.html.

Lavrinc, D. (2012, August 7). “Review: Ploom Pax.” *Wired*. Online. https://www.wired.com/2012/08/ploom-pax/.

Lippert, A.; et al. (2019, August 24). “Schools Influence Adolescent E-Cigarette use, but when? Examining the Interdependent Association between School Context and Teen Vaping over time.” *Journal of Youth and Adolescence*; October 2019, Volume 48, Issue 10, pp 1899-1911.

Meier, B. (1999, April 19). “Lost Horizons: The Billboard Prepares to Give Up Smoking.” *The New York Times.* https://www.nytimes.com/1999/04/19/us/lost-horizons-the-billboard-prepares-to-give-up-smoking.html.

McKelvey, K.; et al. (2018, November 7). “Adolescents have unfavorable opinions of adolescents who use e-cigarettes.” *PLoS One.* https://www.ncbi.nlm.nih.gov/pubmed/30403731.

Mielke, B.; Terez, K. (2018, May 1). “NY school installs sensors to cut down on student vaping.” *ABC News.* https://abcnews.go.com/US/ny-school-installs-sensors-cut-students-vaping/story?id=54852303.

Mosbergen, D. (2017, December 6). “This Man Is An Athlete In The Sport Of ‘Cloud Chasing’.” *Huffington Post.* https://www.huffpost.com/entry/cloud-chasing-vaping-competition_n_5652528.

NCSL. (2019, October 17). “Marijuana Overview.” *National Conference of State Legislatures.* http://www.ncsl.org/research/civil-and-criminal-justice/marijuana-overview.aspx#1.

NYTS. (2019, November 6). “Youth Tobacco Use: Results from the National Youth Tobacco Survey.” *Food and Drug Administration.*

Page, B. (2015, February 17). “Ploom and JTI agree to split up, divide heat-not-burn brands.” *E-Cig Intelligence*. Online. https://ecigintelligence.com/ploom-and-jti-agree-to-split-up-divide-modeltwo-and-pax-brands/.

Paul, K. (2019, October 17). “Juul agrees to restrict youth advertising.” *The Guardian*. https://www.theguardian.com/society/2019/oct/17/juul-youth-vaping-advertising-agreement-settlement.

"PAX 2." (n.d.). *PAX Labs*. (Products). Online. https://www.pax.com/products/pax-2?variant=13409044299891.

Public Health Law Center (2019). "Master Settlement Agreement." *Public Health Law Center*. Saint Paul, Minnesota. Online. https://www.publichealthlawcenter.org/topics/commercial-tobacco-control/commercial-tobacco-control-litigation/master-settlement-agreement.

Reddit. (2009, March 13). "r/Kyle." https://www.reddit.com/r/Kyle/.

Robinson, J. (1930). *US 1775947A.* Retrieved from https://patents.google.com/patent/US1775947.

Rogers, E. (2003, August 16). "Diffusion of Innovations, 5th Edition." *Simon and Schuster.*

Ryan, J.; et al. (2019, June 24). "It's not raining men: a mixed-methods study investigating methods of improving male recruitment to health behaviour research." BMC Public Health. https://doi.org/10.1186/s12889-019-7087-4.

Soule, E.; et al. (2019, November 8). "Cigarette, waterpipe, and electronic cigarette use among college fraternity and sorority members and athletes in the United States." *Journal of American College Health*. DOI: 10.1080/07448481.2019.1680555.

SRITA. (2019) *Stanford University Research into the Impact of Tobacco Advertising.* Online. http://tobacco.stanford.edu/tobacco_main/index.php.

Srsen, I. (2017, December 21). "The Illustrious History of Vaping – From Hookahs of Lore to First E-Cigs." *ECigaretteReviewed.* https://ecigarettereviewed.com/history-vaping/.

Thomas, K.; Kaplan, S. (2019, October 14). "The FDA Had a Decade to Reign in the Vaping Industry. It Failed." *The New York Times.*

Usborn, S. (2018, June 9). "Squonkers, drippers and cloud chasers: the rise of vape culture." *The Guardian.* https://www.theguardian.com/society/2018/jun/09/vape-culture-squonkers-drippers-cloud-chasers-simon-usborne.

Van Dam, A. (2019, September 23). "Trump's vaping crackdown could help Juul by ending the decade's biggest small-business success story." *The Washington Post.*

Yakowicz, W. (2015, June 10). "This Silicon Valley Company Just Raised $47 Million to Smoke Cigarette Makers." *Inc.* Online.

https://www.inc.com/will-yakowicz/pax-labs-vaporizer-company-raises-47-million.html.